

REMARKS

Claims 1-16

Claims 1-16 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Saraki (U.S. Patent No. 5,903,858) in view of Zamora et al. (U.S. Patent No. 4,887,212, hereinafter Zamora).

As amended, independent claim 1 provides a method of identifying non-local linguistic relationships between elements of a text. The method includes identifying a segment of the text and a token outside of the segment. Based on properties of the token and properties of the segment, the method determines that the token may have a non-local linguistic relationship to a licensing element in the segment. The segment is then searched for a licensing element that is capable of being in a non-local linguistic relationship with the token wherein the searching is limited to the segment.

As amended, claim 1 is not shown or suggested in the combination of Saraki and Zamora. In particular, neither reference shows or suggests limiting a search for a licensing element that is capable of being in a non-local linguistic relationship to a segment.

In the Office Action, it was asserted that Zamora showed a search for a licensing element. However, Zamora does not discuss a search for a licensing element that is capable of being in a non-local relationship. Instead, Zamora is performing a simple search for the first noun and verb in a clause. It does not refer to non-local relationships or to a search for elements capable of being in non-local relationships with a token that is not in a segment.

Similarly, Saraki fails to show or suggest searching a segment for a licensing element that is capable of being in a non-local relationship. As such, the combination of Saraki and

See
Allen
reference:
Keynotes

Zamora does not show or suggest this element of claim 1. Claim 1 and claims 2-16, which depend therefrom are therefore patentable over Zamora and Saraki.

Claims 9-16 are additionally patentable over the cited references. In claim 9, after finding at least one licensing element in the segment that is capable of being in a non-local linguistic relationship with the token, the location of the licensing element is added to a record for a syntactic attribute list associated with the syntactic parse.

In the Office Action, it was asserted that Saraki discloses generating such a record in data table DT3 discussed in column 10 and a parse tree of Col. 17, lines 26-53. However, table DT3 does not include a record that indicates the location of a licensing element that is capable of being in a non-local relationship and the cited section in col. 17 does not make reference to table DT3. As such, the location of a licensing element is not stored in table DT3 and such location information is never added to a record as found in claim 9. As such, claims 9-16 are additionally patentable over the cited art.

Claims 17-32

Claims 17 -32 were rejected under 35 U.S.C. § 102(b) as being anticipated by Heidorn et al. (U.S. Patent No. 5,966,686, hereinafter Heidorn).

As amended, claim 17 provides a computer-readable medium having computer-executable instructions for performing steps including constructing a syntactic parse structure of a segment found in a sentence. A token outside of the segment is identified. The segment is then searched for a gap in a relationship that the token can fill, wherein the search is limited to the segment and the gap is not represented in the parse structure.

As amended, claim 17 is not shown or suggested in Heidorn. In particular, Heidorn does not limit searches for gaps

in relationships to a segment. Instead, Heidorn applies each rule to each node in a parse tree. (See Heidorn, col. 10, lines 35-47). Thus, even if the application of a rule were considered a search, the fact that Heidorn applies each rule to each node means that the search is not limited to a segment, but instead is performed across the entire parse structure.

In Heidorn, this full search must be performed because the rules are only applied after a full-span parse structure has been formed. The invention of claim 17 is more efficient because the search is performed only on the segment. As discussed in the specification, this is possible because the search is performed during the construction of the parse structure for the sentence instead of waiting until after an initial syntactic parse for a sentence has been completed.

Since Heidorn does not limit the application of its rules to a segment of a sentence, it does not show or suggest the invention of claim 17 or claims 18-32, which depend therefrom.

Claims 33-34

Claims 33 and 34 were rejected under 35 U.S.C. § 102(b) as being anticipated by Heidorn.

Independent claim 33 provides a computer-readable medium having a data structure. The data structure includes a token identity field that indicates the identity of a token that could satisfy a relationship within a text segment and a gap location field that indicates the location of a gap in a relationship in a text segment. The data structure also includes a role field that indicates the role the token would assume if placed in the gap.

In the Office Action, it was asserted that Heidorn shows a gap location field in the logical parse tree structure of FIG. 44. However, Heidorn does not indicate that the parse structure provides a field that indicates the location of a gap in a relationship in a text segment. Instead, Heidorn applies

(fig 44)
a blank space Heidorn indicates
a field within a parse structure
that indicates ~~the~~ a gap within
a relationship phrase or a
relative clause fig 44

rules to nodes of the parse structure to determine how to change the parse structure. There is no suggestion in Heidorn that the parse structure has a field that indicates the location of a gap in a relationship in a text segment. As such, claims 33 and 34 are patentable over Heidorn.

Claim 35 and 36

Claims 35 and 36 were rejected under 35 U.S.C. § 102(b) as being anticipated by Heidorn.

Independent claim 35 provides a method of identifying non-local relationships during syntactic parsing. The method includes identifying a segment of text that can act as a filler in a non-local relationship found in a second segment of text. First and second gaps in relationships in the second segment of text are located. The method then indicates that the filler can be placed in both the first gap and the second gap.

Heidorn does not show or suggest the method of claim 35 because it does not indicate that a filler can be placed in both a first gap and a second gap during a syntactic parse.

In the Office Action, it was asserted that Heidorn shows a step of indicating that a filler can be placed in both a first gap and a second gap in FIG. 58, where "person" is designated as both DSUB and Dobj. However, in the example associated with FIG. 58, there is only one gap in a relationship. That gap is formed by the separation between "whom" and the verb "met". In addition, in FIG. 58, the Dobj and Dsub tags are added as part of semantic processing and not as part of a syntactic parse as found in claim 35. As such, claim 35 and claim 36, which depends therefrom, are patentable over Heidorn.

Conclusion

In light of the above remarks, claims 1-36 are patentable over the cited references. Reconsideration and allowance of the claims is respectfully requested.

Col 14, Line 1
- 15
+ Fig 58

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to Deposit Account No. 23-1123.

Respectfully submitted,

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